



# Installation Instructions

Part No. 50DJ902791

## CONTENTS

GENERAL.....	1
INSTALLATION.....	1-10
Transducer Installation (48/50FP,FPX,FPY,JP,JPX,JPY,NP and 50FB,JB,NB Units).....	1
Transducer Installation (48/50MP Units).....	6
Airflow Duct (48/50FP,FPX,FPY,JP,JPX,JPY,NP and 50FB,JB,NB Units).....	6
Airflow Duct (48/50MP Units).....	9
UNIT CONFIGURATION.....	11
To use the HSIO Keypad Module.....	11
To use the Service Tool or Building Supervisor.....	11

## PACKAGE CONTENTS

UNIT	QUANTITY — ITEM NAME
ALL	1 — 8 in. x 4 in. airflow duct assembly
	5 — Brackets*
	2 — Pieces 1/4-in. OD tubing (50 ft total)
	1 — Transducer
	Assorted screws and grommets

\*Not all brackets will be used in each installation. Refer to Fig. 1, 10, or 13 for the correct bracket usage for your application.

## GENERAL

The accessory Outdoor Air CFM Kit is for use with the following units:

- 48FP034-104
- 48JP034-064
- 48NP034-074
- 50FB,FPX,FPY034-104
- 50FP,JP,NB,NP034-074
- 50JB,JPX,JPY034-064
- 48/50MP62L-10R

The optional factory-installed economizer is required. The economizer is standard on 48/50MP units.

Installation of this accessory on a 48/50MP unit also requires a separate field-supplied 24-v (20 va minimum) transformer. Use part no. P201-2201 or a 20 va equivalent

It may be necessary to supply a certain amount of fresh outdoor air based on occupancy or square footage of the conditioned space to comply with the latest ASHRAE (American Society of Heating, Refrigeration, and Air Conditioning Engineers) standards. When installed per these installation instructions, this accessory will measure the quantity of outdoor air (ft<sup>3</sup>/minute) brought into the conditioned space through the economizer dampers. If the measured outdoor cfm decreases to a user-configured set point, the unit control will override the minimum damper position on the economizer to maintain outdoor air cfm at the set point. Consult the current release of the

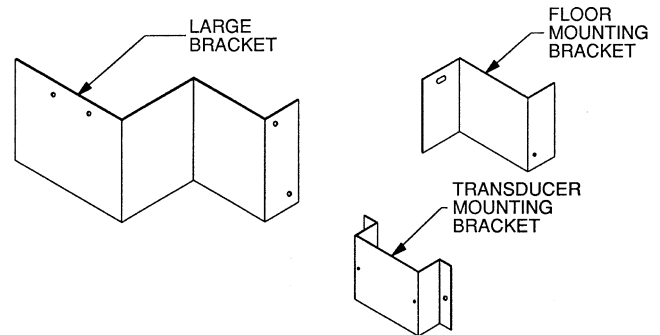


Fig. 1 — Mounting Brackets,  
48/50FB,FP,FPX,FPY,JB,JP,NB,NP034-048 Units

ASHRAE 62 Standard for ventilation requirements to determine the necessary outdoor-air quantities.

## INSTALLATION

### Transducer Installation (48/50FP,FPX,FPY,JP,JPX,JPY,NP and 50FB,JB,NB Units)

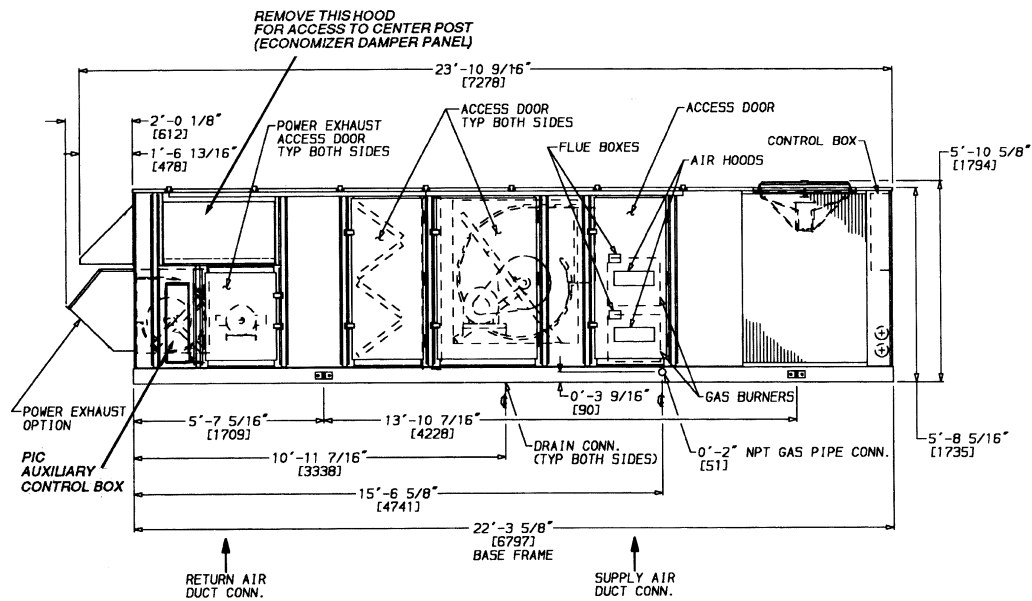
SIZE 034-048 UNITS — A transducer mounting bracket is used to install the transducer into the auxiliary control box. See Fig. 1 for correct bracket.

The auxiliary control box is located at the far left corner when viewing the unit from the main control box end (see Fig. 2). To install the transducer:

1. Mount transducer bracket in the right-hand side of the control box using the pre-drilled holes below terminal block 4 (TB4). See Fig. 3.

NOTE: On units with inlet guide vanes, the bracket will be mounted over the duct pressure sensor (DP). See Fig. 3.

2. Mount the transducer to the bracket. Be sure the pressure ports at the bottom are pointing towards the left side of the control box as in Fig. 3.
3. Connect red and brown wires labeled OACFM-24-1 and OACFM-24-2 in the control box wire harness to the 2 transducer terminals marked IN, 24VAC.
4. Connect the pink wire in the control box wire harness labeled OACFM + to terminal OUT + on the transducer.
5. Connect the black wire in the control box wire harness labeled OACFM – to terminal OUT – on the transducer.
6. Proceed to Airflow Duct section on page 6.



#### LEGEND

PIC — Product Integrated Controls

**Fig. 2 — Auxiliary Control Box Location,  
48/50FP,FPX,FPY,JP,JPX,JPY,NP and 50FB,JB,NB034-048 Units (034 and 038 Unit Shown)**

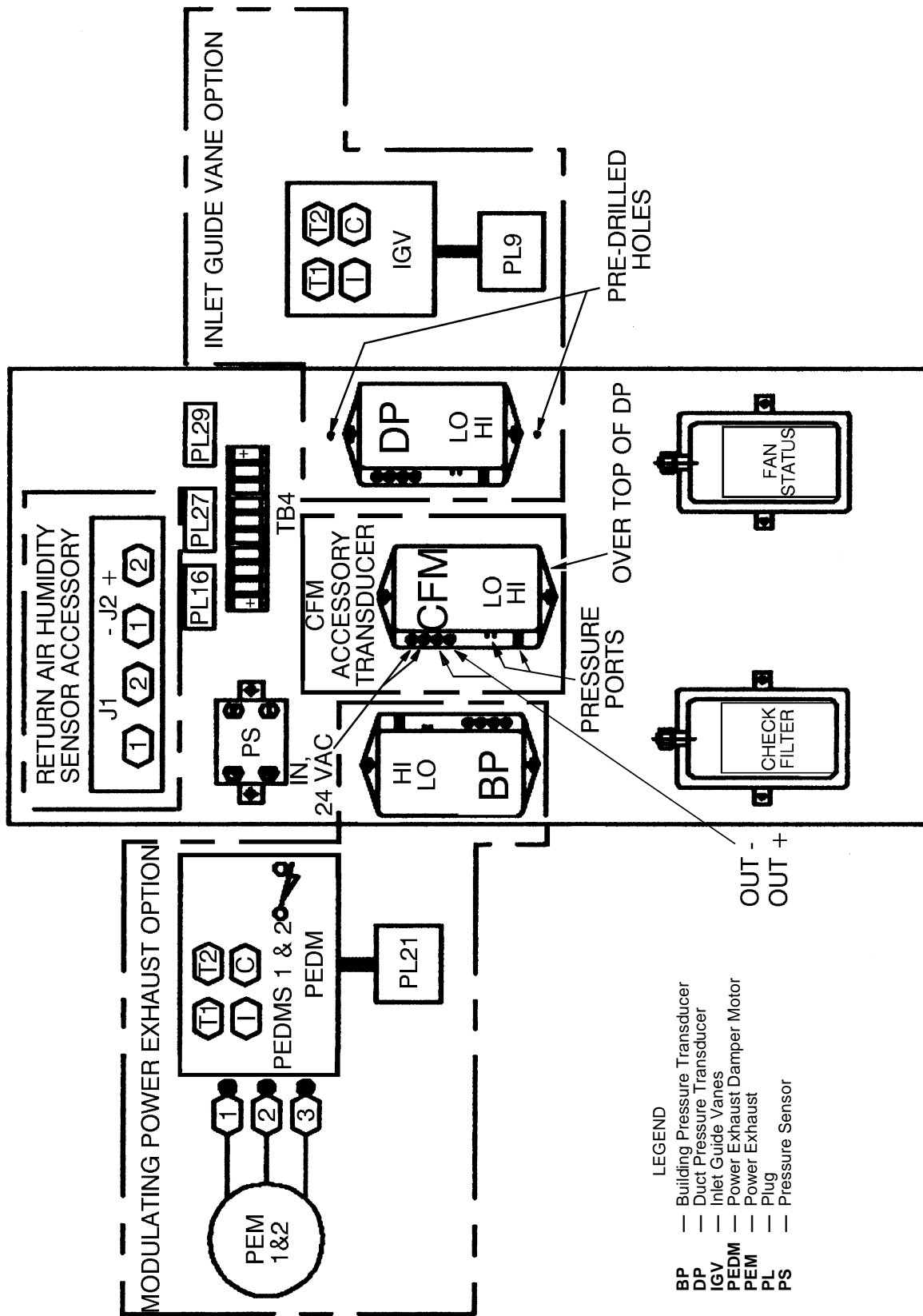
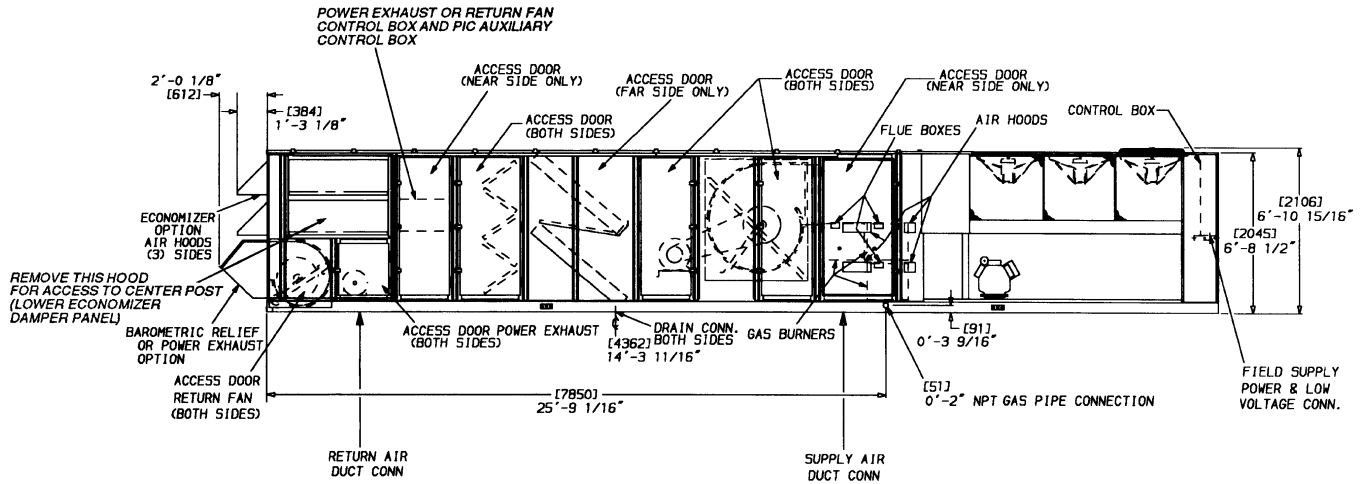


Fig. 3 — Transducer Bracket and Transducer Mounting Location, 48/50FP,FPX,FPY,JP,JPX,JPY,NP and 50FB,JB,NB034-048 Units

SIZE 054-104 UNITS — The transducer mounts directly into the auxiliary control box. No bracket is necessary. The auxiliary control box is behind the filter section doors on the left side of the unit when viewing the unit from the main control box end. See Fig. 4. To install the transducer:

1. Mount the transducer below the check filter switch and above the 24 v power supply (PS) using the factory predrilled holes. See Fig. 5. Mount so that the transducer is in a vertical position and the pressure ports are at the top of the sensor pointing towards the right side of the control box as shown in Fig. 5.

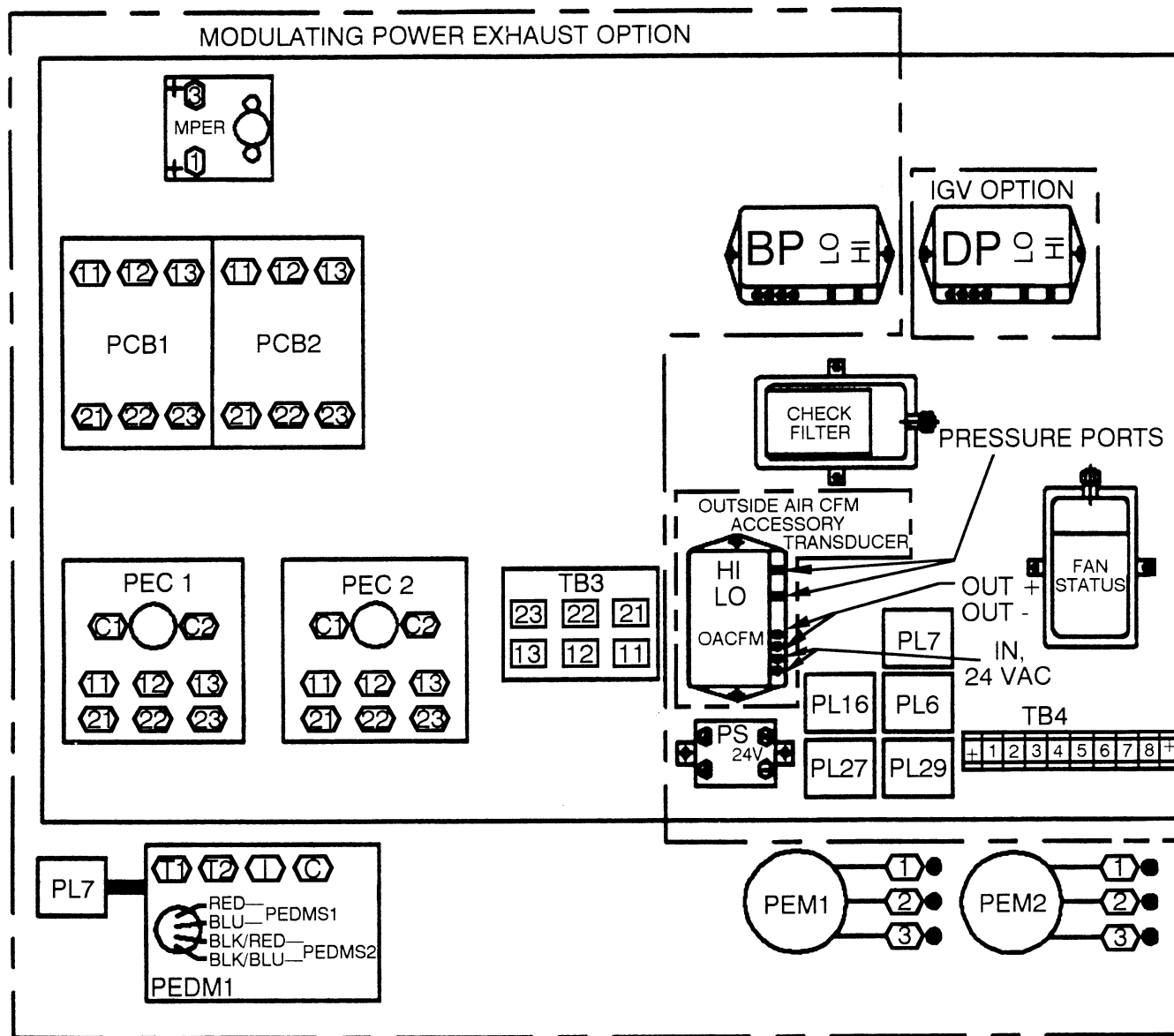
2. Connect red and brown wires labeled OACFM-24-1 and OACFM-24-2 in the control box wire harness to the 2 transducer terminals marked IN, 24 VAC.
3. Connect the pink wire in the control box wire harness labeled OACFM + to terminal OUT + on the transducer.
4. Connect the black wire in the control box wire harness labeled OACFM – to terminal OUT – on the transducer.
5. Proceed to Airflow Duct section on page 6.



#### LEGEND

PIC — Product Integrated Controls

**Fig. 4 — Auxiliary Control Box Location, 48/50FP,FPX,FPY,JP,JPX,JPY,NP and 50FB,JB,NB054-104 Units (48FP074 Unit Shown)**



#### LEGEND

BP	— Building Pressure Transducer
C	— Contactor
DP	— Duct Pressure Transducer
IGV	— Inlet Guide Vanes
MPER	— Modulating Power Exhaust Relay
OA CFM	— Outdoor Air CFM
PCB	— Power Exhaust Circuit Breaker
PEC	— Power Exhaust Contacts
PEDM	— Power Exhaust Damper Motor
PEM	— Power Exhaust Motor
PL	— Plug
PS	— Pressure Sensor
TB	— Terminal Board

**Fig. 5 — Transducer Mounting Location,  
48/50FP,FPX,FPY,JP,JPX,JPY,NP and 50FB,JB,NB054-104 Units**

**Transducer Installation (48/50MP Units)** — The transducer mounts directly into the auxiliary control box in the supply fan section of the unit. No bracket is necessary. The auxiliary control box is behind the first door on the right-hand side of the unit when viewing the unit from the main control box end. See Fig. 6.

To install the transducer:

1. Mount the control transformer in the main unit control box.
2. Mount the transducer next to the fan status switch using the factory pre-drilled holes. See Fig. 7.
3. Locate 4 wires from the main unit control box to the auxiliary control box (red, brown, pink, black).
4. In the main unit control box, connect the 4 wires to the following parts:
  - Red and brown to field-supplied 24-v transformer (secondary terminals)
  - Pink to TB2, terminal 9
  - Black to TB2, terminal 10
5. Connect the primary terminals of the 24-v transformer to the 115-v power supply:
  - Black to TRAN2 primary power supply
  - White to TRAN2 primary power supply
6. In the auxiliary control box, connect the wires to the following parts:
  - Red and brown to the 2 transducer terminals marked IN, 24 VAC
  - Pink to terminal OUT+ on the transducer
  - Black to terminal OUT- on the transducer
7. Proceed to Airflow Duct section on page 9.

## Airflow Duct (48/50FP,FPX,FPY,JP,JPX,JPY,NP and 50FB,JB,NB Units)

SIZE 034-048 UNITS

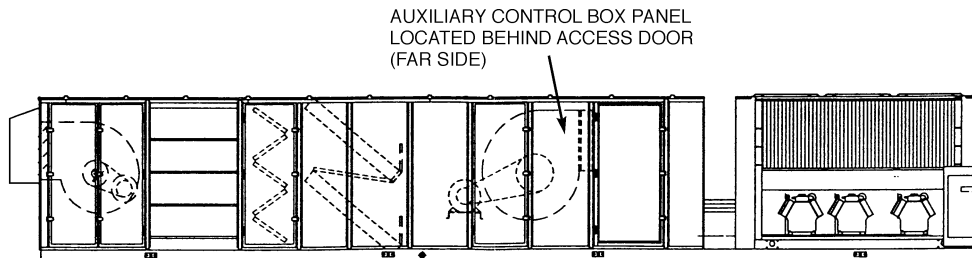
1. Mount the large bracket shown in Fig. 1 to the airflow duct as shown in Fig. 8 using 2 screws. When installing screw no. 2, use the screw from the airflow sensor leg (see Fig. 8). Install this screw through the bracket, airflow duct, and into the sensor leg.

NOTE: DO NOT over-tighten this screw.

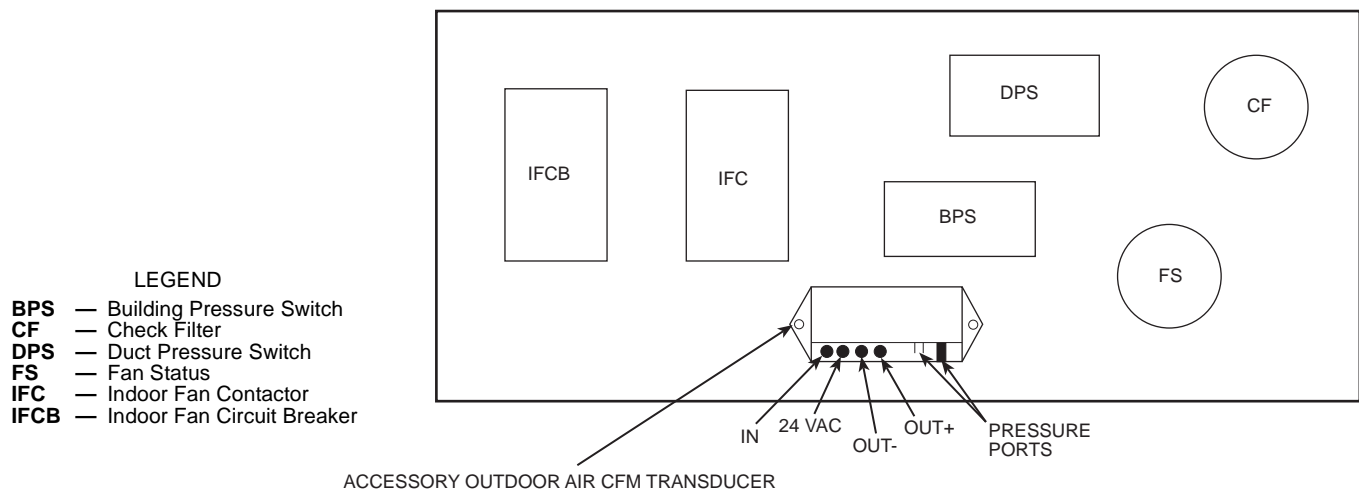
2. Connect floor mounting bracket shown in Fig. 1 to the 8-in. flange end of the airflow duct (see Fig. 8).
3. Put 1 tube grommet in each of the 2 holes on the 4-in. end of the airflow duct (see Fig. 8).
4. Remove economizer hood (see Fig. 2), and mount assembly to the center post of the economizer dampers with the 8-in. opening facing the end hood. See Fig. 9. Use the third and fourth screws up from the bottom in the center post to mount the assembly.

NOTE: The bottom support bracket (8-in. end) should line up with a screw on the horizontal section of the economizer floor. Use this screw to secure the support bracket to the floor of the economizer section. See Fig. 9.

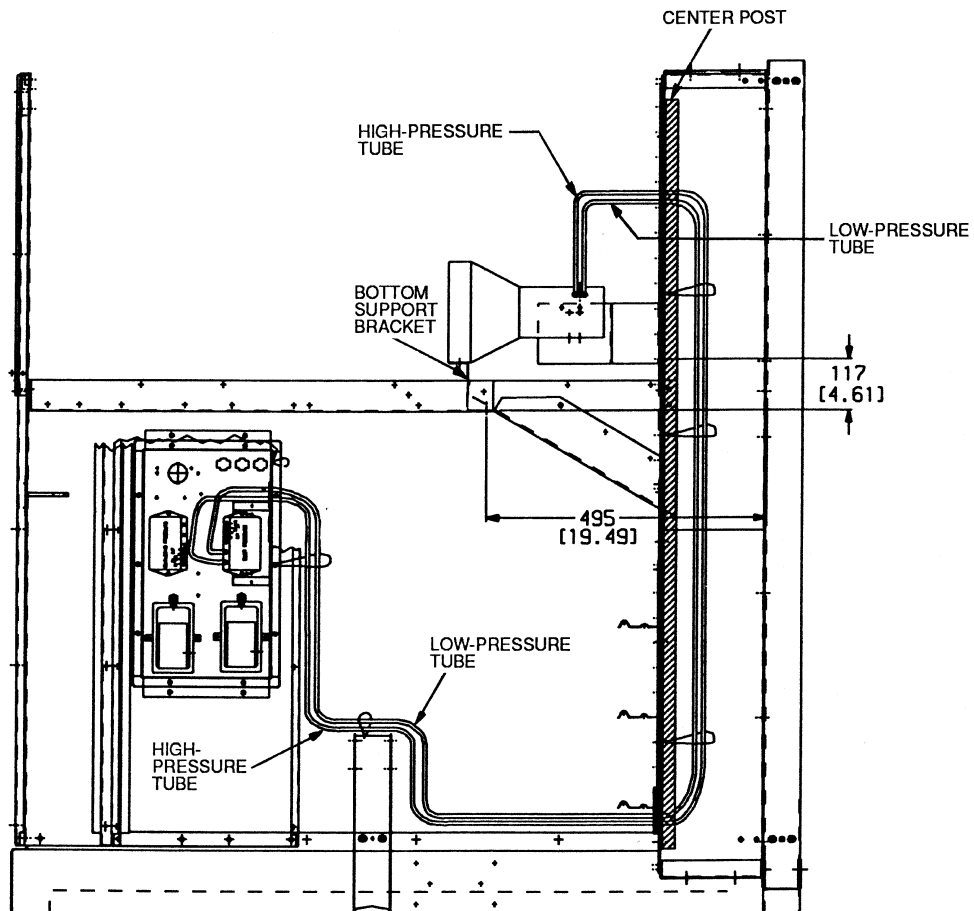
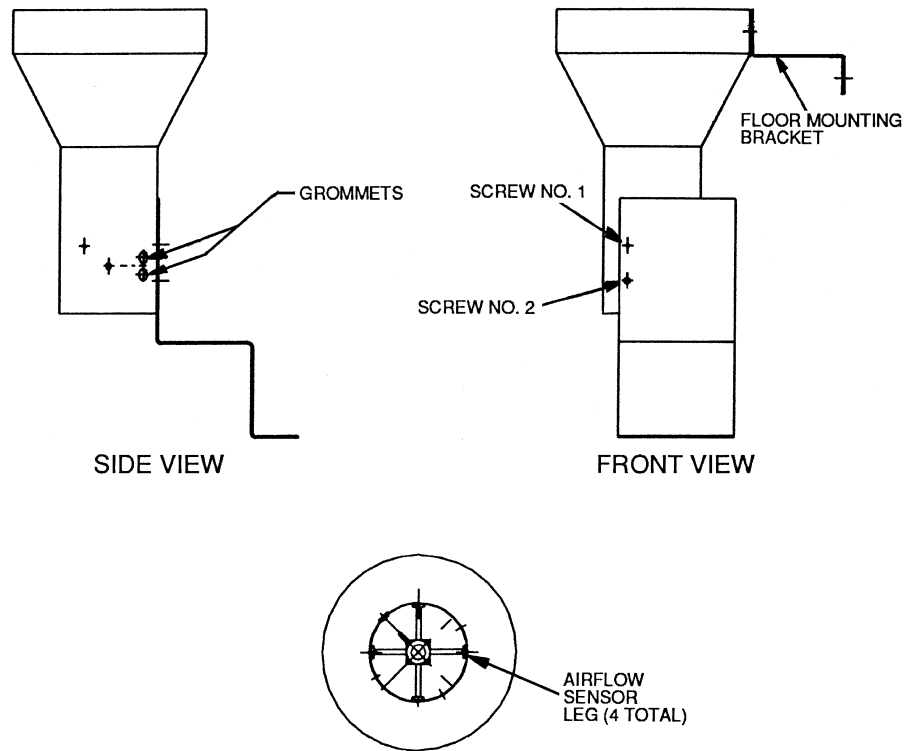
5. Mark the ends of the tubing (HI and LO) and run both lengths as shown in Fig. 9.
6. Connect the high-pressure tube between the HI port on the transducer and the port on the airflow sensor closest to the 8-in. duct opening.
7. Connect the low-pressure tube between the LO port on the transducer and the port on the airflow sensor closest to the economizer dampers.
8. Proceed to Unit Configuration section on page 11.



**Fig. 6 — Auxiliary Control Box Location, 48/50MP Units**



**Fig. 7 — Transducer Mounting Location, 48/50MP Units**

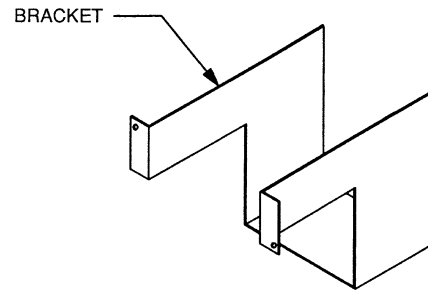


## SIZE 054-104 UNITS

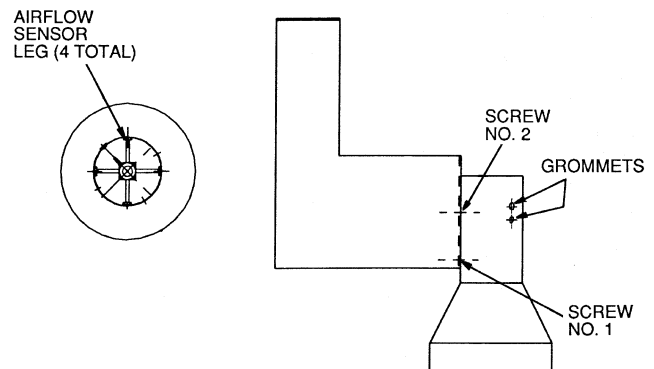
1. Mount bracket from Fig. 10 to the airflow duct using 2 screws as shown in Fig. 11. When installing screw no. 2, use the screw from the airflow sensor leg (see Fig. 11). Install this screw through the bracket, airflow duct, and into the sensor leg.

NOTE: DO NOT over-tighten this screw.

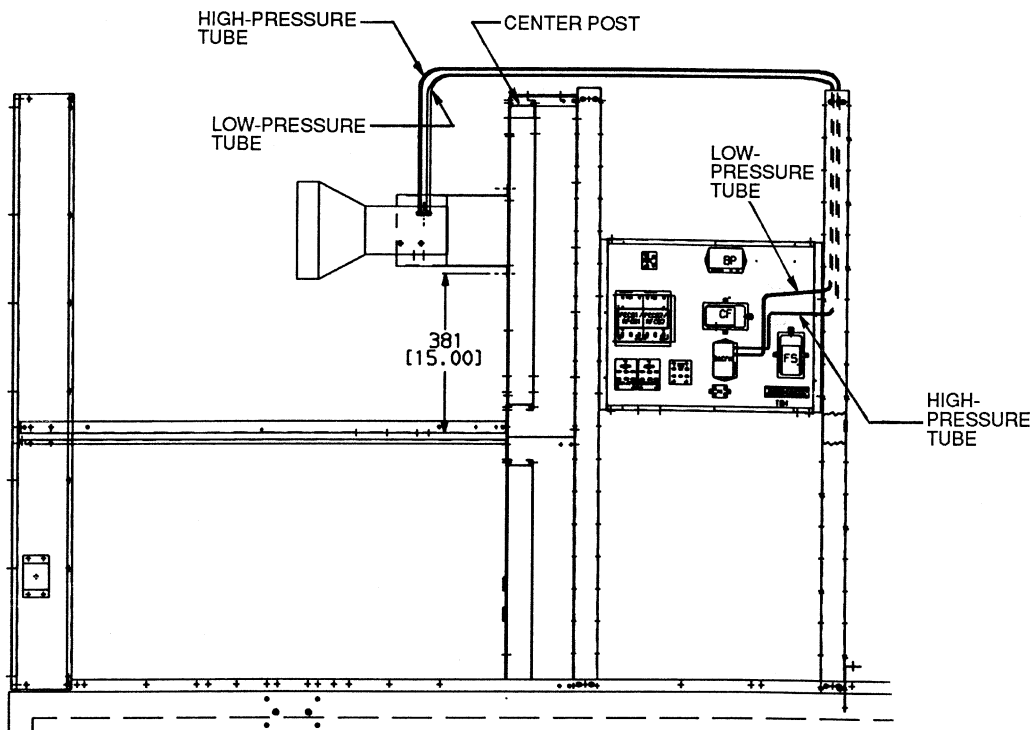
2. Put 1 tube grommet in each of the 2 holes on the 4-in. end of the airflow duct (see Fig. 11).
3. Remove lower economizer damper panel (see Fig. 4), and mount assembly to the center post of the economizer dampers with the 8-in. opening facing the end hoods. See Fig. 12. Use the fourth and fifth screws up from the bottom in the center post to mount the assembly.
4. Mark the ends of the tubing (HI and LO) and run both lengths as shown in Fig. 12.
5. Connect the high-pressure tube between the HI port on the transducer and the port on the airflow sensor closest to the 8-in. duct opening.
6. Connect the low-pressure tube between the LO port on the transducer and the port on the airflow sensor closest to the economizer dampers
7. Proceed to Unit Configuration section on page 11.



**Fig. 10 — Mounting Bracket, 48/50FP,FPX,FPY,JP,JPX,JPY,NP and 50FB,JB,NB054-104 Units**



**Fig. 11 — Bracket Mounting Location, 48/50FP,FPX,FPY,JP,JPX,JPY,NP and 50FB,JB,NB054-104 Units**

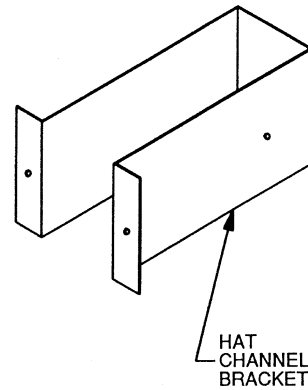


**Fig. 12 — Airflow Duct Assembly Mounting Location, 48/50FP,FPX,FPY,JP,JPX,JPY,NP and 50FB,JB,NB054-104 Units**

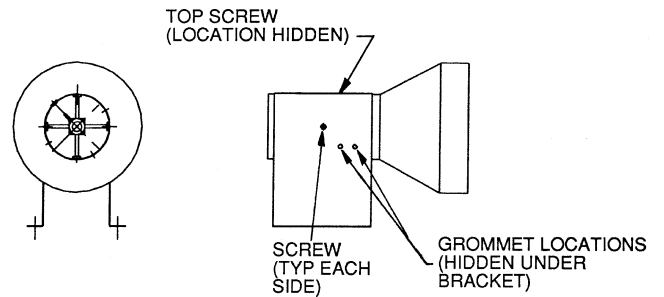


### Airflow Duct (48/50MP Units)

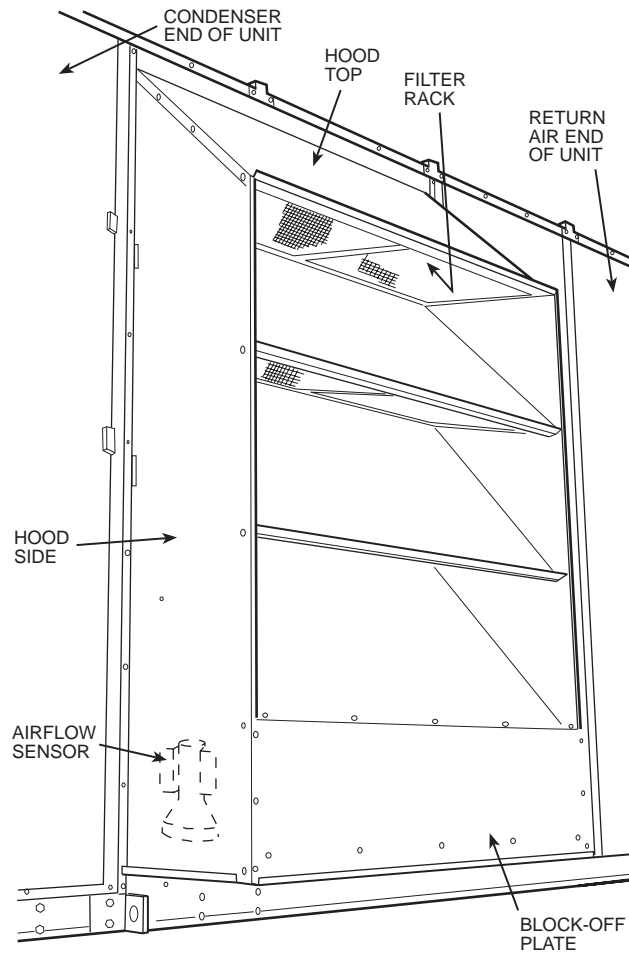
1. Mount the hat channel bracket (see Fig. 13) over the 4-in. end of the airflow duct assembly included in the accessory kit using the 3 screws as shown in Fig. 14.
2. Put one tube grommet in each of the 2 holes on the 4-in. end of the airflow duct (see Fig. 14).
3. Remove the block-off plate from the right-hand side (looking at the main control box) outdoor air hood. See Fig. 15. Save block-off plate and screws.
4. Drill two 0.14-in. engagement holes in the left-hand hood side to mount the airflow duct assembly. See Fig. 16.
5. Mount the airflow duct assembly inside the outdoor air hood using screws provided.
6. Mark the ends of the tubing (HI and LO) and run both lengths from the outdoor air hood to the transducer in the auxiliary control box.
7. Connect the high-pressure tube between the HI port on the transducer and the port on the airflow sensor closest to the 8-in. duct opening.
8. Connect the low-pressure tube between the LO port on the transducer and the port on the airflow sensor closest to the 4-in. duct opening.
9. Replace the block-off plate and proceed to Unit Configuration section on page 11.



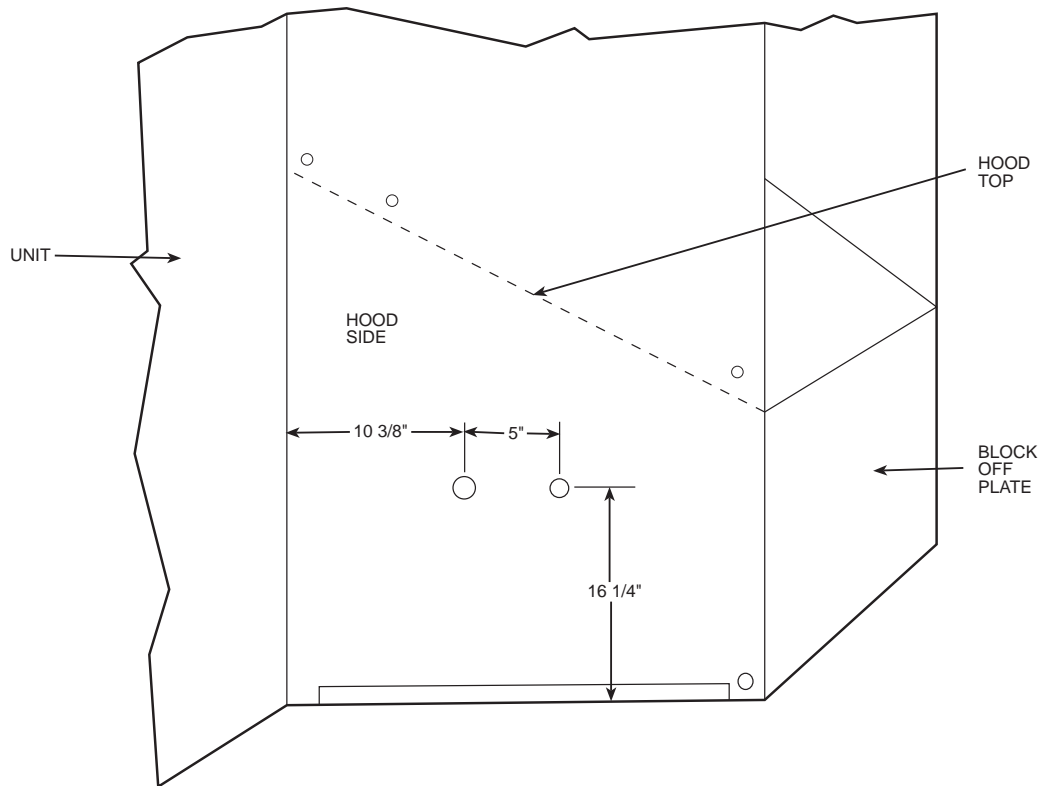
**Fig. 13 — Mounting Brackets, 48/50MP Units**



**Fig. 14 — Hat Channel Bracket Connections, 48/50MP Units**



**Fig. 15 — Airflow Duct Assembly Mounting Location, 48/50MP Units**



**Fig. 16 — Airflow Duct Assembly Mounting Dimensions, 48/50MP Units**

## UNIT CONFIGURATION

On completion of the above installation instructions, the controls must be properly configured for this accessory to function correctly. The HSIO keypad module, the service tool, or the Building Supervisor can be used for this task.

### To use the HSIO Keypad Module:

1. Log into the system by pressing  , then     .
2. Press   to enter the user configuration.
3. Press  until you reach the VENT option.
4. Press  .
5. To program the quantity of air that needs to be brought into the building, press   , and then  until you reach the OCS display (outdoor-air cfm set point). Enter the required value (0 to 50,000 cfm), and press .

At this point, the controls will begin to control the economizer dampers to maintain the minimum quantity of outdoor-air specified in the set point value.

### To use the Service Tool or Building Supervisor:

1. Select the unit.
2. Select the Modify function from the main menu.

3. Select the Controller function.
4. Select the Configuration function.
5. Select the Upload function to upload the present configuration.
6. Select the Edit function, and change the VENT decision to 2.
7. Save the new edits.
8. Select the Download function to download the new configuration back to the controller.

To program the quantity of air that needs to be brought into the building, continue with Steps 9-12.

9. Back out 1 screen, and select the Setpnt-Sched function.
10. Upload the present configuration.
11. Select the Edit function, and enter the outdoor-air cfm set point (0 to 50,000 cfm).
12. Save the edits and download the new configuration back to the controller.

At this point, the controls will begin to control the economizer dampers to maintain the quantity of outdoor air specified in the set point value.

